

AMENDMENT TO THE CLAIMS

1. (Currently Amended) A system providing network topology and bandwidth management comprising:

a processor executing a connection module and a management module stored in memory;

the connection module accepting inputs and providing outputs to various types of voice and non-voice data networks; and

the management module cooperating with the connection module to accept data from said voice and non-voice data networks for routing, the management module instructing a frequency demultiplexer to demultiplex a received multi-frequency signal into separate frequency components, the management module determining an output port in a router based on ~~a destination address, and the management module choosing a network adapter based on the output port and on~~ a frequency of at least one component signal of the multi-frequency signal.

2. (Previously Presented) The system as recited in claim 1, wherein the management module comprises a plurality of network adapters for use to connect to various voice and non-voice data networks.

3. (Previously Presented) The system as recited in claim 1, further comprising a control circuit, the control circuit executing one or more instructions for use to determine an origination of the data and a destination of the data.

4. (Original) The system as recited in claim 3, wherein the control circuit selects an appropriate network adapter based on the origination and destination of the data.

5. (Currently Amended) The system as recited in claim 2, wherein the network adapters comprise any of ~~[[:]]~~ an HPNA adapter, coaxial network adapter, Ethernet network adapter, wireless network adapter, POTS adapters, and power line network adapters.
6. (Previously Presented) The system as recited in claim 5, wherein the data is processed according to a type of adapter.
7. (Previously Presented) The system as recited in claim 1, further comprising a computing application, the computing application having a user interface for use in configuring the connection and management modules.
8. (Original) The system as recited in claim 1, wherein the voice data networks comprise the public switched telephone network.
9. (Original) The system as recited in claim 1, wherein the non-voice data networks comprise any of the Internet, a LAN, a WAN, and a peer-to-peer network.
10. (Original) The system as recited in claim 1, wherein the management module is capable of processing various data communication protocols comprising any of IP, Ethernet and ATM.
11. (Currently Amended) A method for the management of network topology and bandwidth comprising:
- determining ~~a the~~ source of data for communication to a termination point ~~[[,]] the termination point~~ having a predetermined operational signal frequency;
 - separating telephony signals from digital subscriber line signals using a frequency demultiplexer;
 - separately sending the telephony signals and the digital subscriber line signals to a frequency crossbar;

selecting a network topology adapter based on the termination point of data and the predetermined operational signal frequency, ~~selecting an appropriate network topology adapter~~, wherein the network topology adapter comprises any of HPNA adapter, coaxial network adapter, Ethernet network adapter, wireless network adapter, POTS adapters, and power line network adapters;

bridging the telephony signals in the frequency crossbar to a telephony output port;

bridging the digital subscriber line signals in the frequency crossbar to a multi-frequency path associated with an output port to a modem;

sending the digital subscriber line signals from the modem to an Ethernet output port; and

communicating the data to the termination point based on the selected network topology adapter.

12. (Original) The method as recited in claim 11, further comprising routing the data using addressing information.

13. (Original) The method as recited in claim 12, further comprising configuring the adapters, wherein a computing application capable of configuring the adapters is used.

14. (Original) The method as recited in claim 11, further comprising executing at least one instruction set for use in selecting the appropriate adapter, the instruction set being executed by a control logic circuit.

15. (Original) The method as recited in claim 11, further comprising frequency and/or time shifting the data before communication to the termination point.

16. (Currently Amended) An apparatus for the management of network topology and bandwidth comprising:

an input module ~~[[,]] the input module~~ having ports to receive various network couplers from various voice and non-voice data networks;

a control module ~~[[,]] the control module~~ having at least one instruction set for execution to determine source and destination points of data which is communicated across the apparatus to and from the various voice and non-voice data networks, the control module separating telephony signals from digital subscriber line signals using a frequency demultiplexer and separately sending the telephony signals and the digital subscriber line signals to a frequency crossbar, the control module determining an output port in a router based on a destination address and on a frequency of a destination line, the control module bridging the telephony signals in the frequency crossbar to a telephony output port, the control module bridging the digital subscriber line signals in the frequency crossbar to the output port in the router, and the control module choosing a network coupler based on the output port and on the frequency of the destination line ~~operational frequency ranges of the source and/or destination points~~; and

an output module, the output module cooperating with the control module to select a network adapter for use to communicate data to a destination point.

17. (Original) The apparatus as recited in claim 16, further comprising:

a computing application interface, the computing application interface for use to communicate with at least one computing application for use in configuring the apparatus.

18. (Previously Presented) The apparatus as recited in claim 17, wherein the computing application comprises a Web browser interface.

19. (Original) The apparatus as recited in claim 16, wherein the output module comprises a plurality of output ports for use when routing data.

20. (Original) The apparatus as recited in claim 19, wherein the output ports comprise RJ-11 type ports.

21. (Previously Presented) The apparatus as recited in claim 16, wherein the network adapter comprises any of an HPNA adapter, coaxial network adapter, Ethernet network adapter, wireless network adapter, POTS adapters and a power line network adapter, the network adapter being selected based on the operational frequency of the source and destination points.

22. (Currently Amended) A method for managing a network control device, the method comprising:

- accessing a graphical user interface having a topology management control and an application services gateway control;

- activating the topology management control to execute one or more instructions to configure a network management device;

- activating the application services gateway control to execute one or more instructions to configure the network management device to operate with services provided by a telephone services provider;

- determining a source of data for communication to a termination point having a predetermined operational signal frequency;

- separating telephony signals from digital subscriber line signals using a frequency demultiplexer;

- separately sending the telephony signals and the digital subscriber line signals to a frequency crossbar;

- bridging the telephony signals in the frequency crossbar to a telephony output port;

- bridging the digital subscriber line signals in the frequency crossbar to an output port;

- sending the digital subscriber line signals to an Ethernet output port; and

routing the telephony signals and the digital subscriber line signals through the configured network management device to network adapters based on a frequency of a destination line ~~at least one frequency component of the telephony signals and the digital subscriber line signals.~~

23. (Previously Presented) The method of claim 22, wherein activating the topology management control to execute one or more instructions to configure a network management device comprises selecting configuration information including one or more of network addressing information, encryption information and network/bandwidth topology information.
- 24 (Previously Presented) The method of claim 22, wherein activating the application services gateway control to execute one or more instructions to configure the network management device comprises selecting services comprising one or more of video on demand, music on demand, remote security applications and video conferencing.
25. (Previously Presented) The method of claim 22, wherein accessing a graphical user interface comprises navigating controls of the network management device using a computer browser application.
26. (Previously Presented) The method of claim 22, wherein activating the topology management control further comprises manipulating controls for configuring one of a home network and a small office network.
27. (Previously Presented) The method of claim 22, wherein routing the telephony signals and the digital subscriber line signals comprises routing network data packets to one or more of an HPNA adapter, a coaxial network adapter, an Ethernet network adapter, a wireless network adapter, a POTS adapter, and a power line network adapter.

28. (Currently Amended) A computer-readable medium having computer-executable instructions for performing a method for managing a network control device, the method comprising:

accessing a graphical user interface having a topology management control and an application services gateway control;

activating the topology management control to execute one or more instructions to configure a network management device;

activating the application services gateway control to execute one or more instructions to configure the network management device to operate with services provided by a telephone services provider;

determining a source of data for communication to a termination point having a predetermined operational signal frequency;

separating telephony signals from digital subscriber line signals using a frequency demultiplexer;

separately sending the telephony signals and the digital subscriber line signals to a frequency crossbar;

bridging the telephony signals in the frequency crossbar to a telephony output port;

bridging the digital subscriber line signals in the frequency crossbar to an output port;

sending the digital subscriber line signals to an Ethernet output port; and

routing the telephony signals and the digital subscriber line signals through the configured network management device to network adapters based on a frequency of a destination line ~~at least one frequency component of the telephony signals and the digital subscriber line signals.~~

29. (Previously Presented) The computer-readable medium of claim 28, wherein activating the topology management control to execute one or more instructions to configure a network management device comprises selecting configuration information including one

or more of network addressing information, encryption information and network/bandwidth topology information.

30. (Previously Presented) The computer-readable medium of claim 28, wherein activating the application services gateway control to execute one or more instructions to configure the network management device comprises selecting services comprising one or more of video on demand, music on demand, remote security applications and video conferencing.
31. (Previously Presented) The computer-readable medium of claim 28, wherein accessing a graphical user interface comprises navigating controls of the network management device using a computer browser application.
32. (Previously Presented) The computer-readable medium of claim 28, wherein activating the topology management control further comprises manipulating controls for configuring one of a home network and a small office network.
33. (Previously Presented) The computer-readable medium of claim 28, wherein routing one or more of voice information and non-voice information through the configured network management device to network adapters comprises routing network data packets to one or more of an HPNA adapter, a coaxial network adapter, an Ethernet network adapter, a wireless network adapter, a POTS adapter, and a power line network adapter.